CLAIMS

1. An electromagnetic pump comprising: a cylinder; a moving member being movably accommodated in said cylinder, said moving member having a permanent magnet; an air-core electromagnetic coil being fitted around said cylinder, said electromagnetic coil reciprocally moving said moving member in the axial direction when electricity is supplied to said coil; and pump chambers for sending a fluid, said pump chambers being formed in said cylinder, characterized in,

that an air-core detecting coil for detecting reciprocating motion of said moving member is fitted around said cylinder so as to be coaxial with said electromagnetic coils.

2. The electromagnetic pump according to claim 1, wherein a plurality of said electromagnetic coils are fitted around the periphery of said cylinder, and said detecting coils are respectively provided close to axial end faces of said electromagnetic coils.

3. The electromagnetic pump according to claim 1, wherein yokes made of a magnetic material are provided to axial end faces of said detecting coil or the axial end faces and an outer circumferential face thereof.

4. The electromagnetic pump according to claim 1, wherein frequency of induced voltage of said detecting coil is twice as high as frequency of the reciprocating motion of said moving member.

5. The electromagnetic pump according to claim 1, wherein flow volume of said pump is detected on the basis of the induced voltage detected by said detecting coil.

6. The electromagnetic pump according to claim 1, wherein flow volume of said pump greater than a prescribed value or not is detected on the basis of a threshold value of the induced voltage detected by said detecting coil.

7. The electromagnetic pump according to claim 1, wherein a normal or abnormal reciprocating motion of said moving member is detected on the basis of a threshold value of the induced voltage detected by said detecting coil.

8. The electromagnetic pump according to claim 1, wherein motion of said moving member is controlled on the basis of a threshold value of the induced voltage detected by said detecting coil.

9. The electromagnetic pump according to claim 1, wherein the induced voltage detected of said detecting coil is detected in a detection range, in which variation of the induced voltage caused by magnetization of said electromagnetic coil is small.